

## **Case Diagnosis**

Suprascapular nerve palsy

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67 yo M presented with R shoulder/arm pain for 4 years. Initial exam revealed TTP along medial scapula, AC joint, long head of biceps and supraspinatus. MME revealed weak shoulder abduction and positive scarf sign, neer's, hawkin's and speed's test. EMG RUE revealed chronic right upper trunk brachial plexopathy. MRI RUE showed no structural abnormalities.

Due to new limitations in ROM 3mo later including restrictions in shoulder abduction and external rotation, MRI brachial plexus was performed which showed new intramuscular edema and atrophy/fatty infiltration of the R infraspinatus with full thickness supraspinatus tendon tear. EMG RUE was repeated and revealed abnormalities in the supra/infraspinatus which showed reduced interference pattern but no denervation.

## **Discussions**

Upper trunk palsy occurs when the angle between the shoulder and the neck widens. EMG findings could involve the supraspinatus, infraspinatus, biceps, deltoid, triceps, pronator teres, flexor carpi radialis, brachioradialis, extensor carpi radialis.

The suprascapular nerve arises from the upper trunk and receives nerve fibers from C5 and C6. After branching from the upper trunk, it passes to the supraglenoid notch and innervates the supraspinatus and supplies sensory fibers to the deep tissues of the GH/AC joints. After passing the spinoglenoid notch, it innervates the infraspinatus. This patient's physical exam and initial EMG findings showing chronic denervation changes to the biceps, triceps, extensor digitorum muscles were suspicious for upper trunk brachial plexopathy. However, repeat EMG was more suggestive of a suprascapular nerve palsy as shown by reduced recruitment to the supra/infraspinatus with no other findings.

## **Conclusions**

Thus, this patient has a suprascapular palsy with a resolved upper trunk brachial plexopathy. Literature is significantly limited but as per Kline, 40% of C5-6 preganglionic injuries spontaneously recovered in 3 to 4 months. Treatment options for suprascapular nerve palsy include physical therapy, nerve blocks and surgical release.